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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

LARYEA, LAWRENCE N

ART UNIT

PAPER NUMBER

3768

MAIL DATE

DELIVERY MODE

12/20/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/522,807	Applicant(s) SHIINA ET AL.	
	Examiner LAWRENCE N. LARYEA	Art Unit 3768	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 September 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4,6-21,23 and 25-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4,6-21,23 and 25-34 is/are rejected.
- 7) ☒ Claim(s) 1,2,4,6-21,23 and 25-34 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 January 2010 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>06/17/2010</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Status of Claims

1. Claims **1-2, 4, 6-21, 23 and 25-34** are pending and currently under consideration for patentability under 37 CFR 1.104. The prior art rejection set forth in the previous office action has been withdrawn due to the **new claim amendments**.

Information Disclosure Statement

2. The information disclosure statement filed 11/12/2010 fails to comply with 37 CFR 1.98(a)(1), which requires the following: (1) a list of all patents, publications, applications, or other information submitted for consideration by the Office; (2) U.S. patents and U.S. patent application publications listed in a section separately from citations of other documents; (3) the application number of the application in which the information disclosure statement is being submitted on each page of the list; (4) a column that provides a blank space next to each document to be considered, for the examiner's initials; and (5) a heading that clearly indicates that the list is an information disclosure statement. The information disclosure statement has been placed in the application file, but the information referred to therein has not been considered.

The follow foreign patent documents (**State Intellectual Property Office of People's Republic of China**) with these application numbers **2009100068357 and 20009101179925** have been placed in the application file, but the information referred to therein has not been considered.

3. The information disclosure statement (IDS) submitted on 06/17/2010 has been considered by the examiner.

Priority

4. It is noted that this application appears to claim subject matter disclosed in prior Application No. **PCT/JP03/09731, filed July 31, 2003**. A reference to the prior application must be inserted as the first sentence(s) of the specification of this application or in an application data sheet (37 CFR 1.76), if applicant intends to rely on the filing date of the prior application under 35 U.S.C. 119(e), 120, 121, or 365(c). See 37 CFR 1.78(a). For benefit claims under 35 U.S.C. 120, 121, or 365(c), the reference must include the relationship (i.e., continuation, divisional, or continuation-in-part) of all nonprovisional applications. If the application is a utility or plant application filed under 35 U.S.C. 111(a) on or after November 29, 2000, the specific reference to the prior application must be submitted during the pendency of the application and within the later of four months from the actual filing date of the application or sixteen months from the filing date of the prior application. If the application is a utility or plant application which entered the national stage from an international application filed on or after November 29, 2000, after compliance with 35 U.S.C. 371, the specific reference must be submitted during the pendency of the application and within the later of four months from the date on which the national stage commenced under 35 U.S.C. 371(b) or (f) or sixteen months from the filing date of the prior application. See 37 CFR 1.78(a)(2)(ii)

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and (a)(5)(ii). This time period is not extendable and a failure to submit the reference required by 35 U.S.C. 119(e) and/or 120, where applicable, within this time period is considered a waiver of any benefit of such prior application(s) under 35 U.S.C. 119(e), 120, 121 and 365(c). A benefit claim filed after the required time period may be accepted if it is accompanied by a grantable petition to accept an unintentionally delayed benefit claim under 35 U.S.C. 119(e), 120, 121 and 365(c). The petition must be accompanied by (1) the reference required by 35 U.S.C. 120 or 119(e) and 37 CFR 1.78(a)(2) or (a)(5) to the prior application (unless previously submitted), (2) a surcharge under 37 CFR 1.17(t), and (3) a statement that the entire delay between the date the claim was due under 37 CFR 1.78(a)(2) or (a)(5) and the date the claim was filed was unintentional. The Director may require additional information where there is a question whether the delay was unintentional. The petition should be addressed to: Mail Stop Petition, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

If the reference to the prior application was previously submitted within the time period set forth in 37 CFR 1.78(a), but not in the first sentence(s) of the specification or an application data sheet (ADS) as required by 37 CFR 1.78(a) (e.g., if the reference was submitted in an oath or declaration or the application transmittal letter), and the information concerning the benefit claim was recognized by the Office as shown by its inclusion on the first filing receipt, the petition under 37 CFR 1.78(a) and the surcharge under 37 CFR 1.17(t) are not required. Applicant is still required to submit the reference in compliance with 37 CFR 1.78(a) by filing an amendment to the first sentence(s) of the specification or an ADS. See MPEP § 201.11.

Claim Objections

5. Claim 11 is objected to because of the following informalities:

At Claim 11, line 2 , “:” should be deleted. Appropriate correction is required.

35 USC § 112, Sixth Paragraph

6. The following is a quotation of sixth paragraph of 35 U.S.C. 112:

An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

7. The following means-plus-function limitations recited in **Claims 1-2,4,6-21 and 25-34** invoke special claim interpretation under 112, sixth paragraph:

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- storage means for storing the properties of signals detected with said ultrasonic probe; in **Claims 1,8 and 13.**
- correlation computing means for calculating the correlation coefficient ..., in **Claims 1,8 and 13.**
- display means for displaying, in Claim 1,8 and 13.
- computing means for calculating the displacement of each measurement point, ... **Claims 1,8 and 13.**
- elastic modulus computing means for creating ..., in **Claim 7,11 and 17.**

Claim Rejections - 35 USC § 112

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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9. In **Claims 1-2,4,6-21 and 25-34** thereof, these means-plus-function limitations are vague and indefinite.

- storage means for storing the properties of signals detected with said ultrasonic probe; in Claims 1,8 and 13.
- correlation computing means for calculating the correlation coefficient ..., in Claims 1,8 and 13.
- display means for displaying, in Claim 1,8 and 13.
- computing means for calculating the displacement of each measurement point, ... Claims 1,8 and 13.
- elastic modulus computing means for creating ..., in Claim 7,11 and 17.

As set forth above, **Claims 1-19** thereof recite various “means” clauses. The specification as filed does not set forth specific structures for performing the means recited. The means-plus-function limitations set forth above all lack specific related structures in the specification. See MPEP § 2181 for guidance in determining whether an applicant has complied with the requirements of 35 U.S.C. 112, second paragraph, when 35 U.S.C. 112, sixth paragraph, is invoked. 35 U.S.C. 112, sixth paragraph states that a claim limitation expressed in means-plus-function language “shall be construed to cover the corresponding structure...described in the specification and equivalents thereof.” “If one employs means plus function language in a claim, one must set forth in the specification an adequate disclosure showing what is meant by that language. If an applicant fails to set forth an adequate disclosure, the applicant has in effect failed to particularly point out and distinctly claim the invention as required by the second

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paragraph of section 112.” *In re Donaldson Co.*, 16 F.3d 1189, 1195, 29 USPQ2d 1845, 1850 (Fed. Cir. 1994) (*in banc*).

For the purpose of examination, the means-plus-function limitations recited in **Claims 1,7,8,11,17** and all dependent claims thereof have been given the broadest reasonable interpretation consistent with the functional limitation of the claims.

At Claims 1, line 21, recites limitation “the maximum correlation coefficient”.

At Claims 2 and 21, line 3 recites the limitation “the wave properties”.

At Claim 7, line 4 recites the limitation “the information”.

At Claim 8, line 7 recites the limitation “the correlation coefficient”.

At Claims 8, line 19, limitation recites the limitation “said envelop signals”

At Claims 8, line 22 , recites limitation “the maximum correlation coefficient”

At Claims 9 and 14, line 2 -4 recite these limitations “the ultrasonic-beam direction”, “said ultrasound beam” and “the ultrasonic-beam scanning direction”.

At Claim 10 , lines -6, recite these limitations “the wavelength”, “said ultrasonic wave signals” ,and “ultrasonic-beam pitch”.

At Claim 11 , line 4 recites the limitation “the information”.

At Claim 13, lines 13-24 recite these limitations “the strain distribution “the maximum correlation coefficient” , “envelop signals” and “said RF signals”.

At Claim 14, lines 2-4, recite these limitations the ultrasonic-beam direction”, “said ultrasonic beam” and “the ultrasonic-beam scanning direction”, “the slice direction orthogonal” and “said two directions”.

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At Claim 15 , lines 4-7 recite these limitations “the wavelength”, “said ultrasonic wave signals” , “the ultrasonic-beam scanning direction”, “the ultrasonic-beam pitch”, and “the slice pitch” .

At Claim 16, lines 2-4 recite these limitations “said ultrasonic-beam direction”, “the ultrasonic-beam scanning direction”, “said slice direction” , “the slice direction orthogonal” and “said two directions”, and “said two directions”.

At Claim 17 , line 4 recites these limitations “the elastic modulus distribution”.

At Claim 19 , lines 4 -8 recite these limitations “the assumption”, “the elastic equation”, “the uniform elastic modulus”, “the uniform stress” and “the strain uniform”.

At Claim 20 , lines 1-5 recite these “the displacement “ , “the signals ”, “the tissue”, “the subject” , and “the strain distribution”.

At Claim 20 , lines 19-25 recite these “said stored ultrasound beam data”, “the maximum correlation coefficient”, “the wavelength”.

At Claim 26 , lines 1-5 recite these “the displacement “ , “the signals”, “the tissue”, “the subject”, and “the strain distribution”, “said envelop signals”.

At Claim 26 , lines 19-25 recite these limitations “said stored ultrasound beam data”, “the maximum correlation coefficient”, “the RF signals”.

At Claim 27, line 2 -4 recite these limitations “the ultrasonic beam ” and “the ultrasound-beam scanning direction”.

At Claim 30 , lines 1-5 recite these limitation “the displacement “ , “the signals”, “the tissue”, “the subject”, and “the strain distribution”, “said envelop signals”, “the maximum correlation coefficient”, “the three-dimensional”, “the RF signals”.

At Claim 31, line 2 -4 recite the limitations “the ultrasound-beam direction”, “said ultrasonic-beam”, and “the ultrasound-beam scanning direction”, “the slice direction orthogonal” and “said two directions”.

At Claim 32 , line 3-4 recites “said ultrasonic-beam-direction”, “the wavelength”, “said ultrasonic wave signals”, “said ultrasonic-beam pitch”, “said slice direction”, and “the slice pitch”

At Claim 33 , line 5 recites the limitation “the information”.

There is insufficient antecedent basis for the limitations in the claims set forth above.

NOTE: As stated in the previous Office Action, the claims and specification are generally narrative and indefinite, failing to conform with current U.S. practice. They appear to be a literal translation into English from a foreign document and are replete with errors (see above objection and rejections). Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the claims and specification. ***No new matter should be entered..***

Allowable Subject Matter

10. Claims **1,8,13,20,26, and 30** all dependent claims thereof would be allowable if amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action. Further the claims **1,8,13,20,26, and 30** are allowable for the same reasons of records.

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LAWRENCE N. LARYEA whose telephone number is (571)272-9060. The examiner can normally be reached on 9:30 a.m.-5:30 p.m. EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Long Le can be reached on 571-272-0823. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

LNL

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/Unsu Jung/
Primary Examiner, Art Unit 1641